Human settlement Distribution in Tonk district of Rajasthan : A Geographical Analysis

A

Synopsis

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Of
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Submitted to

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CERTIFICATE

This is to certify that Synopsis entitled "Human Settlement Distribution in Tonk District of Rajasthan : A Geographical Analysis" has been undertaken independently by **Sandeep Lodi** under my guidance and supervision and it throws more light on the existing knowledge on this subject. This work has been submitted for partial fulfilment of the degree of Ph.D. in Geography and not for any other degree in India or Abroad.

Date : **Dr. Rabindra Nath**

Place : Jaipur

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1. Geographical and historical introduction of the research area.

Tonk district is a district of the state of Rajasthan in western India . The city of Tonk is the administrative headquarters of the district. The district is bounded on the north by Jaipur district , on the east by Swaimadhopur district , on the southeast by Kota district, on the south by Bundi district , on the southwest by Bhilwara district , and on the west by Ajmer district

History

It was built in the 12th century by a Brahmin Tunkau, from whom it came to the be known as Tunk and later Tonk According to another version, the town was built by a Brahman called Bhola in 1643

Geography

Tonk is on National highway no.12 , 100 km from Jaipur. It is in the northeastern part of the state between 75.19' and 76.16 East longitude and 25.41' and 26.24' North latitude. The total area is 7194 km2 (as per 2002-03).

It is one of the four districts headquarters of Rajasthan state that are not directly connected with rail. The nearest railway station, Newai, is within the district but is 30 km from the district headquarters. Banas river flows through the district.

The district is notable for the Tonk meteorite, a rare carbonaceous chondrite meteorite that fell in 1911.

Economy

In 2006, the Ministry of Panchayati Raj named Tonk one of the country's 250 most backward district (out of 640). It is one of the 12 districts in Rajasthan receiving funds from the Backward regions grant fund.

Divisions

Tonk has 9 tehsils and 7 sub-divisions. The 9 tehsils are Deoli, Malpura,Newai,Todarasingh,Tonk,Peeplu,Uniyara,Dooni,Nagarfort The 7 sub-divisions are Deoli,Malpura,Newai, Tonk is Nagar-Parishad while Deoli,Malpura,Newai,Todaraisingh and Uniyara are Nagar-Palikas. There were 1093 villages in the district according to the 2001 census.

Notable sights

- Shahi Jama Masjid
- Bisalpur Dam
- Bisaldev Temple
- Diggi Kalyanji Temple
- Hadi rani ka kund
- Hathi Bhata
- Rasiya Ke Tekri
- Shivaji Park
- Sunehri Kothi
- Maulana Abul Kalam Azad Arabic and Persian Research Insititute

Soil in Tonk

Semi Arid Eastern Plain zone III A of Rajasthan have alluvial as well as black soils in Districts including Tonk. Only 28% area is irrigated and Bajra, Jwar, Moong, Urd, Sesame, Mustard, Wheat, Gram are the main crops of Kharif and Rabi in this region.

Area, Production and Productivity of major crops cultivated in the district

S.N.	Crop	Area (h)	Production (q)	Productivity (q/ha)	Potential Yield (q/h)	Gap (q/h)
Kharif						
1	Jwar	51700	34900	6.75	8.5	1.75
2	Bajra	41900	61000	14.57	18.0	3.43
3	Moong	38200	16300	5.27	9.5	4.23
4	Urd	16900	8900	5.78	7.25	1.47
5	Sesame	9100	1700	1.92	4.5	2.58
6	G.Nut	8800	9900	11.21		
Rabi						
7	Mustard	299000	280000	9.37	15.43	6.06
8	Wheat	66000	138000	20.90	41.0	20.1
9	Barley	5200	9000	18.45	38.0	19.55
10	Gram	49800	37900	7.61	13.0	5.39

Production and productivity of livestock, Poultry, Fisheries etc. in the district

Category	Population	Production	Productivity
Cattle			
Crossbred	4448	8.00 lpd	
Indigenous	241753	4.00 lpd	
Buffalo	311411	5.50 lpd	
Sheep	253535	1.50Kg/Year	
Goats	393355	0.70 lpd	
Pigs	9787		
Rabbits	687		
Camel	2108		
Poultry			
Hens	60873		

Weather Data (2021-22)

Rainfall (mm)	Temperature 0 C	Relative Humidity (%)
860.12	Maximum : 45.2 Minimum : 2.8	35.74%

Country	India
City	Rajasthan
Longitude	75.7962852
Latitude	26.1659063
Attitude/Elevation	280.72m (921.0ft)
Local time	Monday 16:54
Annual high temperature	33.6ºC (92.48ºF)
Annual low temperature	23.31ºC (73.96ºF)
Average annual precip.	79.02mm (3.11in)

Warmest month	May (42.58ºC / 108.64ºF)
Coldest Month	January (11.77ºC / 53.19ºF)
Wettest Month	August (377.87mm / 14.88in)
Driest Month	December (1.01mm / 0.04in)
Number of days with rainfall (≥ 1.0 mm)	74.62 days (20.44%)
Days with no rain	290.38 days (79.56%)
Humidity	37.16%

Tonk Climate Summary

Located at an elevation of 280.72 meters (921.0 feet) above sea level, Tonk has a Subtropical steppe climate (Classification: BSh). The district's yearly temperature is 30.21°C (86.38°F) and it is 4.24% higher than India's averages. Tonk typically receives about 79.02 millimeters (3.11 inches) of precipitation and has 74.62 rainy days (20.44% of the time) annually.

2. Proposed Research Importance

The subject of the proposed research is to study the area related to human settlement and population distribution in Tonk district.

Tonk district has different types of geographical conditions, due to which there are different types of human settlement population distribution, that is, more dense settlements are found at some places and semi-dense settlements are found at some places, in this way providing housing to the population at the lowest rate. And providing clean drinking water and providing employment will be the main objective.

3. Objective of the proposed research

The main objective has been to study human settlement and population distribution in Tonk district. In addition, the main objective of the study are….

1. To study the aspects of human settlement and population distribution of Tonk district.

2. study the impact of the physical environment on society

3. To study the impact of cultural environment on physical environment.

4. Study of the impact of geological factors of the district on human settlement and population distribution.

5. To analyse regional disparities in present human settlement and population distribution.

6. To study the problems related to human settlement and population in the area.

7. To give suggestions for solving the problems related to human settlement and population in the area.

4. Literature Review :

The spatial distribution of population and settlements in a country and their connectivity and accessibility, urban areas are important for healthcare delivery, distribution of resources and economic development.

Geographers have made a detailed study of the distribution of urban and rural settlements, settlement structure, settlement sites and settlement situations, distribution patterns of settlements and their impact on the environment.

For the factual and thematic study of the research work, the research articles have been presented at the regional, national, international level.

It is a challenge and opportunity for the government to provide basic facilities to the human settlement group in about 649000 villages in 32.8 lakh kilometer area in India, these facilities have to provide basic needs like road, housing, water, electricity, education and health.

There is a need for the Government of India to do special work to link the rural areas with the main roads.

International level

Peng, Xu and Wang, Q (2020) analyzed the factors affecting the spatial distribution of settlements in pastoral, agricultural, and ecotone regions of Inner Mongolia, China. The authors reported that these Despite the slope being similar in the areas, difference in altitude has been found, due to which the environmental conditions have been found to be different in different parts. These conditions have influenced the pattern of settlements. Researchers have hypothesized that the distribution pattern of settlements varies from region to region, rural settlements are of utmost importance in the rural landscape. In this research, remote sensing images, digital elevation model and GIS techniques have been used as a methodology for data analysis. Also quantitative techniques, Voronoi model, landscape matrix and nearest neighbor analysis technique developed by Evans and Clark have also been applied. On this basis, it was told that clustered settlements have been found in agricultural areas and regular settlements have been found in rural areas. The spatial distribution pattern as a whole is found to be random. In conclusion, it was told that the river and road have greatly influenced the spatial pattern of settlements.

A research paper by Tabunsic v a (2020) analyzes human settlements in Crimea on the basis of height. On the basis of altitude, the landscape has been divided into four parts (hydraulic, low mountain region,

medium mountain region and interior plateau landscape). Satellite images and Quantum GIS data have been used for elevation analysis. Both rural and urban settlements have been analyzed on the basis of height. It was clarified in the study that historical and geographical factors have influenced the settlements of the Republic of Crimea, as well as the height from the sea level has greatly influenced the settlements. He also told that the concentration of settlements has been found to be most useful in hydrographic landscapes. It is clear from the research findings that in the minimum height (up to 600 meters) from the sea level, the flow of the river has been found more, while the rural settlement has been found even more than double this height. The authors point out that this research has relevance for increasing the connectivity of settlements and economic development in the Republic of Crimea. He told that economic work will be done due to the mutual accessibility of settlements and this research will be helpful in the economic development of Crimea.

National level

Nautiyal G , Mathani S and Sharma A (2020) in their research paper "Study of Urban Growth Dynamics using Global Human Settlement Layer Data Set: Uttarakhand, India" have studied the changing human settlements through remote sensing, clearly in the research What has been the impact on the dynamics of urban development in the Himalayan state of Uttarakhand in the last 4 decades. Along with this, the study of geographical factors on the types of settlements and settlements has also been done, it has been concluded that due to climate and surface effect on the settlements, there is a seasonal change.

Chaudhary Suresh (2017) in the research study "Geographical Perspective of Urban Settlements in Dhule District of Maharashtra" told that urbanization is a major phase of present times. The shortcomings of the basic facilities of the poor population in the urban slums have also been exposed. The author has completed his research work by dividing it into 9 chapters. In the research study, the basic needs and facilities in urban areas have been done in detail. In which communication practices, star of education, health conditions, banking and market facilities have been mentioned and emphasis has been laid on the problems of urban centres. Along with unemployment, health, social and educational problems in urban areas, attention has been drawn to the main problems of water supply. The research study has thrown light on slums in detail. In which what is the reason for the formation of slum? And has also drawn attention to the slums of Indian cities. In conclusion, told that urban areas should be saved in a planned way and there is a need for innovation in many basic facilities.

Regional level

Singh, G and Kumar, s (2018) In this research, it was told that settlement geography is a new branch of geography. Describing the usefulness of his study area, he said that this area is famous for taking mustard crop, there is a strong possibility of development of oilseeds based industry, due to which unemployment will decrease and development will happen smoothly. That's why he told that this study draws attention to geomorphological differentiation, spatial pattern and distribution of rural settlements. From geomorphological point of

view, he told his area to be located in the desert, Meru, and Mal and plains. The cultural heritage of this place has also been highlighted in the introduction part of the research. Their main objective is to study rural settlements by dividing them on the basis of size and population. Along with this, the endemicity of the villages was also determined and studied by dividing the villages into endemicity. Four types of settlements have also been told in this study, where are which types.

5. Research Gap

By analyzing the studies related to human settlement distribution and population, it is known that human settlement distribution and population is the main topic of today. Human settlement and population distribution has been studied in all the concerned areas. The subject of my research is the geographical analysis of human settlement distribution and population in Tonk district, social and economic development in rural areas. In this context, what changes are taking place in them at present and what are the schemes through which their social status can be raised, in this way we can say that a lot of research work has been done on the related literature. And this research work is progressing continuously, it will prove to be helpful for the changes in the rural environment and their problems and solutions in the future. It will also provide a background for future research work.

6. Hypothesis

The following hypotheses have been tested in the research related study and conclusions have been drawn.

In the research area, there will be a study area of disparities related to human settlement distribution and population. The effect of physical and cultural landscape is clearly visible in the development of human settlement distribution and population of the research area.

7. Research Methodology

The proposed research will be based on the entire geographical area of Tonk district. The format of the research will be of descriptive investigation and comparative type. In which primary secondary data will be used.

Through collection of primary data, field survey, through informal interview, discussion and schedules etc., we will get information about local people and related research by talking to various organizations.

Secondary data can be obtained from research paper books, periodical journal published reports from various government departments and other important documents etc. Present the data through statistical methods like tables etc.

8. Proposed Chapter

CHAPTER 1 : Introduction

1.1 Introduction
1.2 Statement About the Research Problem
1.3 Importance of Research
1.4 Study Area
1.5 Objective of Research
1.6 Hypothesis
1.7 Review of Literature
  1.7.1 International Level
  1.7.2 National Level
  1.7.3 Regional Level
1.8 Methodology
1.9 Sources of Data
1.10 Significance of the Study
1.11 Chapter Scheme
References

CHAPTER 2 : Geographical Profile of Tonk District

2.1 Historical Background
2.2 Geographical Location of Tonk District
2.3 Impact of Geographical Factors on Distribution of Human Settlements
  2.3.1 Geological Structure
  2.3.2 Relief Features
  2.3.3 Drainage System
  2.3.4 Soil Structure
  2.3.5 Climate
2.4 Natural Vegetation
2.5 Bio Mass
2.6 Minerals
2.7 Industry
2.8 Tourism
Conclusion

References

CHAPTER 3: Demographic Structure

3.1 Background

3.2 Population Growth

3.3 Population Distribution & Density

3.4 Sex Ratio

- 3.4.1 Rural sex ratio
- 3.4.2 Urban sex ratio

3.5 Literacy

- 3.5.1 Total literacy
- 3.5.2 Rural literacy
- 3.5.3 Urban literacy

3.6 Occupational Structure

- 3.6.1 Working population
- 3.6.2 Marginal working population
- 3.6.3 Non working population

3.7 Caste Structure

- 3.7.1 Rural Schedule tribe
- 3.7.2 Urban schedule tribe
- 3.7.3 Rural schedule caste
- 3.7.4 Urban schedule caste

3.8 Conclusion

References

CHAPTER 4: Evolution, Growth and Development of Human Settlement)

4.1 Background

4.2 Pre-Historical Period

4.3 Historical Period

4.4 Ancient Age

4.5 Medeival Age

4.6 British Age

4.7 Independent India

4.8 Name of places of Rural settlements

- 4.8.1 Tonk tehsil
- 4.8.2 Malpura tehsil
- 4.8.3 Deoli tehsil
- 4.8.4 Newai tehsil
- 4.8.5 Todaraisingh tehsil
- 4.8.6 Uniyara tehsil
- 4.8.7 Dooni tehsil
- 4.8.8 Peeplu tehsil
- 4.8.9 Nagarfort tehsil

4.9 Conclusion

References

CHAPTER 5: Distribution of Human Settlement

5.1 Background

5.2 Factors affecting settlements

5.3 Rural settlement and population distribution on the basis of population size class

Distribution of rural settlements on the basis of size class in Tonk district

5.4 spatial extent, average size and density of human settlements

5.5 Distribution of Urban Settlement

5.6 Functional Classification of Urban Centre

5.7 Levels of Urbanization

Conclusion

References

CHAPTER 6 : Primary Survey of Study Area and Data Analysis

6.1 Background
6.2 Analysis of Human Settlement
6.2.1 Distribution of Human Settlements in hilly Areas
6.2.2 Distribution of Human Settlements in Plain Areas
6.2.3 Human Settlement Distribution in Undulating Areas
6.3 Field Survey of Primary Level
6.4 Analysis of Nature of Various Variables
6.4.1 Dependent Variables
6.4.2 Independent Variables
6.5 Co-relation Metrix
6.6 Regression Coefficient
6.7 Chi Square Test
6.8 Conclusion

CHAPTER 7: Conclusion & Suggestions

7.1 District Tonk : Physical features

7.2 District Tonk : Average annual rainfall (mm)

7.3 District Tonk : Decadal population growth(1901-2011)

7.4 District Tonk : Tehsil wise population density

Sex ratio 2011, Literacy rate 2011, business structure 2011 in percentage

Caste based census 2011,

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